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| 10/670,534 | 09/25/2003 | Jinru Bian | 03010US | 5465 |

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Rodel Holdings, Inc.
Suite 1300
1105 North Market Street
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EXAMINER

MARCHESCHI, MICHAEL A

| ART UNIT | PAPER NUMBER |
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1755

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,534

Applicant(s)

BIAN ET AL.

Examiner

Michael A. Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/2/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

In the following claims, CDO means carbon doped oxide (see section [0063] of the specification).

Applicants are reminded that the status identifier to claim 6 is incorrect. However, to advance prosecution, it is viewed as being canceled.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/2/05 has been entered.

Claims 1-3 are directed to an invention not patentably distinct from claim 4 of commonly assigned publication number 2005/0031789. Specifically, the copending claims claim a composition which comprises 0.1-10% of an oxidizing agent and 0.0025-6% of an inhibitor, abrasive particle and 0.001-3% of an organic ammonium salt. Although the claims do not define the specific oxidizing agent and inhibitor (i.e. imidazole), the claimed materials are obvious because **A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423**

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(CCPA 1971). The claimed materials are known oxidizers and inhibitors. In addition, one can look to the specification for the meaning of a term and the specification defines oxidizers and inhibitors as meaning the claimed materials. With respect to the selectivity, it is the examiners position that although the reference fails to literally define this, this composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302).

Commonly assigned publication number 2005/0031789, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter. A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Liu et al. (publication number 2005/0031789)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

The reference teaches in sections [0020]-[0036], a polishing composition having the claimed pH which comprises 0.1-10% of an oxidizing agent and 0.0025-6% of an inhibitor (imidazole), 0-25% abrasives and 0.001-3% of an organic ammonium salt. The claimed amounts and components are clearly encompassed by the reference. In addition, the reference defines the ammonium salt as tetramethylguanidine. Since the instant invention define the barrier removal

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agent as tetramethylguanidine and the ammonium salt as tetramethylguanidine (see section [0050]), the reference composition reads on the claimed composition because tetramethylguanidine is present (reads on both of the instantly claimed barrier removal agent and ammonium salt components). With respect to the selectivity, it is the examiners position that although the reference fails to literally define this, this composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being obvious over EP 1,229,093.

The reference teaches in the abstract and sections [0016]-[0039], a polishing composition having a pH within the claimed range which comprises hydrogen peroxide, an abrasive, an organic ammonium salt and imidazole. The amounts for the components are defined.

The reference clearly teaches a composition which contains all of the claimed components and although the reference does not literally define the amounts in terms of weight percent, it is the examiners position that when the reference amounts are converted to weight percent they will encompass the claimed range. Although the reference does not literally define the selectivity, this aspect is obvious because it is the examiners position the composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary. In addition, the reference teaches that tantalum nitride and CDO can be polished.

Claims 1-4 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/830,268 (publication number 20050236601). Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the composition of the copending claims would render obvious the instant claims. Specifically, the copending claims claim a composition which comprises 0-20% of an oxidizing agent, at least 0.001% of an inhibitor (claimed barrier removal agent), abrasive particle and at most 4% of an organic ammonium salt. Although the claims do not define the specific oxidizing agent, the claimed materials are obvious because **“a generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971).** The claimed materials are known oxidizers. In addition, one can look to the specification for the meaning of a term and the specification defines oxidizers as meaning the claimed materials. The instant claims define the barrier removal agent as tetramethylguanidine and the ammonium salt of the instant invention is defined as tetramethylguanidine (see section [0050]). In view of this, since the copending claims use tetramethylguanidine, this reads on both of the instantly claimed barrier removal agent and ammonium salt components. With respect to the selectivity, it is the examiners position that although the reference fails to literally define this, this composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-4 and 11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/670,587 (publication number 20050070211) in view of Liu et al. (789).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the composition of the copending claims would render obvious the instant claims. Specifically, the copending claims claim a composition which comprises 0-25% of an oxidizing agent, 0.05-25% of a nitrogen containing compound (claimed barrier removal agent) and abrasive particle. Although the claims do not define the specific oxidizing agent, the claimed materials are obvious because **“a generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971).** The claimed materials are known oxidizers. In addition, one can look to the specification for the meaning of a term and the specification defines oxidizers as meaning the claimed materials. The instant claims define the nitrogen containing compound as tetramethylguanidine and the ammonium salt of the instant invention is defined as tetramethylguanidine (see section [0050]). In view of this, since the copending claims use tetramethylguanidine, this reads on both of the instantly claimed barrier removal agent and ammonium salt components. Although the pH is not literally defined, it is the examiners position that one skilled in the art would have appreciated that the pH of the

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composition is dependent on the substrate to be polished. The copending claims polish semiconductors (with tantalum barrier films) and since the claimed pH is known for compositions used for this application, as shown by the secondary reference, the pH limitation would have been obvious to the skilled artisan. With respect to the selectivity, it is the examiners position that although the reference fails to literally define this, this composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being obvious over Wang et al. (2003/0170991).

The reference teaches in the abstract sections [0015], [0016], [0025], [0027], [0028] and table 3, a polishing composition having the claimed pH (6.5) which comprises 0.1-30% of an oxidizing agent (claimed materials), 0.05-10% of a polishing additive (amines or imines) and 5% or less of a quaternary ammonium salt. Table 3 defines that guanidine nitrate is used as the additive.

Although the reference does not literally states “imine derivatives, the claimed materials are obvious because **“a generic disclosure (amine) renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169**

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USPQ 423 (CCPA 1971). In addition, table 3 of the reference teaches a composition that the additive is guanidine nitrate. With respect to the ammonium salt, the broad recitation of quaternary ammonium salt renders the claimed species obvious because they are within the category of quaternary ammonium salt and **a generic disclosure (amine) renders a claimed species prima facie obvious.** *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971). Although the reference does not literally define the selectivity, this aspect is obvious because it is the examiners position the composition of the reference is expected to yield this property because the composition is the same (contains the same materials in the same amounts) and the same composition is expected to provide the same results absent evidence to the contrary.

Applicant's arguments filed 9/2/05 have been fully considered but they are not persuasive.

With respect to the hydrazine derivative, applicants state that hydrazine derivatives do **not** include imidazole in view of the different structure and thus has omitted this from the claims and section [0031] of the specification. The examiner acknowledges this, but sections [0014], [0016] and [0021], which define the formula of the hydrazine derivative, state that the R groups can be a hydrocarbon group (section [0014]), said hydrocarbon group being a heterocyclyl group (section [0016]). Section [0021] states that the heterocyclyl group can be **imidazole**, thus when these sections are viewed together, they imply that the derivative is imidazole. Since imidazole is defined in the specification as a hydrazine derivative, it is the examiners position that any

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reference that uses this component can be applied. Applicants cancellation of imidazole in section [0031] of the specification presents confusion (is inconsistent with the above sections, at least) because the other sections, as defined above clearly imply that imidazole is a hydrazine derivative. If imidazole is clearly not intended and incorrectly defined as being a hydrazine derivative, all of the references in the specification to imidazoles, as well as imidazole structures, should be excluded (i.e. see section [0021]).

Applicants argue that that the terminal disclaimer alone overcomes the rejection based on Liu et al. A terminal disclaimer alone is not sufficient to overcome the 103(a) rejection based on this reference.

With respect to the EP reference, applicants argue that imidazole is not within the scope of the claims. In response, in view of the inconsistency of the specification defined above, it is the examiners position that imidazole can still be within the scope of the claims.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

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A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971).

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976).

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/05
MM

Michael A. Marcheschi
Primary Examiner
Art Unit 1755